

In the Claims:

The currently pending claims are as follows:

1. (previously presented) A process for the laser welding of nonferrous metals, consisting essentially of:

providing one or more laser diodes as a laser beam source;

guiding at least one focused laser beam to the workpiece surface to be machined; and

flowing a process gas against the workpiece surface,

wherein the process gas comprises

- a binary gas mixture of carbon dioxide and argon, or
- a binary gas mixture of carbon dioxide and nitrogen, or
- a ternary gas mixture of carbon dioxide, argon and nitrogen, and

the process gas is one of said binary or ternary gas mixtures, and the process gas contains between about 15% and about 90% by volume of carbon dioxide.

2. (canceled)

3. (previously presented) The process according to claim 1, wherein the process gas is one of said binary or ternary gas mixtures, and the process gas contains between about 45% and about 85% by volume of carbon dioxide.

4. (previously presented) The process according to claim 1, wherein the process gas is one of said binary or ternary gas mixtures, and the process gas contains between about 55% and about 80% by volume of carbon dioxide.

5-8. (canceled)

9. (previously presented) The process according to claim 1, wherein the process gas is one of said binary or ternary gas mixtures, the process gas contains up to 50% by volume of carbon dioxide.

10-11. (canceled)

12. (previously presented) The process according to Claim 1, wherein the one or more laser diodes produce a wavelength of between about 700 nm and about 1,300 nm.

13. (previously presented) The process according to claim 1, wherein the one or more laser diodes produce a wavelength of between about 800 nm to about 1000 nm.

14. (canceled)